



ADVOCATES  
FOR HIGHWAY  
& AUTO SAFETY

January 31, 2023

The Honorable Gus M. Bilirakis, Chair  
The Honorable Jan Schakowsky, Ranking Member  
Committee on Energy and Commerce  
Innovation, Data, and Commerce Subcommittee  
United States House of Representatives  
Washington, D.C. 20510

Dear Chairman Bilirakis and Ranking Member Schakowsky:

As you prepare for tomorrow's hearing, "Economic Danger Zone: How America Competes to Win the Future Versus China," Advocates for Highway and Auto Safety (Advocates) would like to address the issue of new and emerging vehicle technologies and autonomous vehicles (AVs).

Advocates is an alliance of consumer, medical, public health, law enforcement, and safety groups and insurance companies and agents working together to improve road safety in the United States (U.S.). Advocates' mission is the adoption of federal and state laws, policies and programs that prevent motor vehicle crashes, save lives, reduce injuries, and contain costs. We respectfully request this letter be included in the hearing record.

**The "Danger Zone" on Our Nation's Roads: Death and Injury Toll is Skyrocketing While Requirements for Proven Safety Technology Stagnate**

According to the National Highway Traffic Safety Administration (NHTSA), 38,824 people were killed and an estimated 2.28 million more were injured in traffic crashes in 2020.<sup>1</sup> In 2021, the NHTSA estimates that 42,915 people were killed in traffic crashes and that these numbers remained relatively static in the first nine months of 2022.<sup>2</sup> The NHTSA currently values each life lost in a crash at \$11.8 million.<sup>3</sup> In 2019, crashes, injuries, and fatalities imposed a financial burden of nearly \$1.4 trillion in total costs to society -- \$340 billion of which are direct economic costs, equivalent to a "crash tax" of \$1,035 on every American.<sup>4</sup> In 2018, crashes alone cost employers \$72.2 billion.<sup>5</sup>

While some have touted AVs as a panacea to address this significant and costly public health emergency, requiring proven and available safety technologies with minimum performance standards would address the issue now. The NHTSA has estimated that between 1960 and 2012, over 600,000 lives have been saved by motor vehicle safety technologies.<sup>6</sup> Advocates always has enthusiastically championed this approach. In 1991, Advocates led the coalition that supported enactment of the bipartisan Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991<sup>7</sup> which included a mandate for front seat airbags as standard equipment. As a result, by 1997, every new car sold in the United States was equipped with this technology and the lives saved have been significant. Airbags have saved an estimated 50,457 lives from 1987 to 2017, according to NHTSA.<sup>8</sup> Advocates continued to support proven lifesaving technologies as

standard equipment in all vehicles in other federal legislation and regulatory proposals. These efforts include: tire pressure monitoring systems;<sup>9</sup> rear outboard 3-point safety belts;<sup>10</sup> electronic stability control;<sup>11</sup> rear safety belt reminder systems;<sup>12</sup> brake transmission interlocks;<sup>13</sup> safety belts on motorcoaches;<sup>14</sup> electronic logging devices for commercial motor vehicles (CMVs);<sup>15</sup> and, rear-view cameras.<sup>16</sup>

## Real-world benefits of crash avoidance technologies

IIHS and NHTSA study the effects of crash avoidance features by comparing rates of police-reported crashes and insurance claims for vehicles with and without the technologies. Results below are for passenger vehicles unless otherwise noted.

December 2020

### Forward collision warning

- ↓ 27% Front-to-rear crashes
- ↓ 20% Front-to-rear crashes with injuries
- ↓ 9% Claim rates for damage to other vehicles
- ↓ 17% Claim rates for injuries to people in other vehicles
- ↓ 44% Large truck front-to-rear crashes

### Forward collision warning plus autobrake

- ↓ 50% Front-to-rear crashes
- ↓ 56% Front-to-rear crashes with injuries
- ↓ 14% Claim rates for damage to other vehicles
- ↓ 24% Claim rates for injuries to people in other vehicles
- ↓ 41% Large truck front-to-rear crashes

### Lane departure warning

- ↓ 11% Single-vehicle, sideswipe and head-on crashes
- ↓ 21% Injury crashes of the same types

### Blind spot detection

- ↓ 14% Lane-change crashes
- ↓ 23% Lane-change crashes with injuries
- ↓ 7% Claim rates for damage to other vehicles
- ↓ 9% Claim rates for injuries to people in other vehicles

### Rear automatic braking

- ↓ 78% Backing crashes (when combined with rearview camera and parking sensors)
- ↓ 10% Claim rates for damage to the insured vehicle
- ↓ 28% Claim rates for damage to other vehicles

### Rearview cameras

- ↓ 17% Backing crashes

### Rear cross-traffic alert

- ↓ 22% Backing crashes

### Advanced Driver Assistance Systems (ADAS)

According to the Insurance Institute for Highway Safety (IIHS), advanced driver assistance systems (ADAS) can prevent or mitigate crashes and protect occupants and road users. The National Transportation Safety Board (NTSB) has included increasing implementation of collision avoidance technologies in its Most Wanted Lists of Transportation Safety Improvements since 2016.<sup>17</sup>

However, lifesaving capabilities of ADAS are limited because they are not required as standard equipment in new vehicles. Rather, their sale as part of an additional, expensive trim package along with other non-safety features, or including them as standard equipment in high end models or vehicles reduces mass dissemination and inequitably provides access only to those who can afford an upcharge of thousands of dollars. Moreover, there are currently no minimum performance standards to ensure the technologies execute as

expected and needed. Research performed by IIHS indicates that AEB with pedestrian detection can reduce pedestrian crash risk by as much as 33 percent.<sup>18</sup> However, over a third of pedestrian deaths occur in dark/unlighted conditions, and research also indicates that today's pedestrian AEB systems do not reduce pedestrian crash risk in the dark without street lighting.<sup>19</sup> Further, testing performed by IIHS and NHTSA indicates that pedestrian AEB systems have the ability to properly perform in the dark now.<sup>20</sup> Therefore, requiring that these systems function in all light conditions will lead to a greater reduction in the grim statistics noted above. Considering the

historic increases in fatalities involving vulnerable road users (VRUs) including pedestrians, bicyclists, people who use wheelchairs and other assistive devices, roadside first responders and others, it is imperative that this technology detects and responds to all people in the roadway. Pedestrian fatalities have increased by 79 percent since the historic low in 2009. Pedalcyclist fatalities have increased by 58 percent since the historic low in 2010.<sup>21</sup> When consumers walk into auto showrooms to purchase a vehicle, which is often one of the most considerable expenditures for families, they expect the assurances of minimum safety standards to protect them, as has been the case since the first regulation in 1966.<sup>22</sup>

Since enactment of the Infrastructure Investment and Jobs Act (IIJA, Pub. L. 117-58), Advocates has been urging the U.S. Department of Transportation (DOT) to meet and exceed its directives for ADAS. The current void of regulations for ADAS renders all road users, including VRUs, at risk to dangers. Furthermore, these technologies are some of the essential building blocks for the potential of AVs in the future.

### ***Connected Vehicles***

Connected vehicle technologies allow a vehicle to send and receive communications with other vehicles (vehicle-to-vehicle (V2V)), the infrastructure (vehicle-to-infrastructure (V2I)), and “everything” (vehicle-to-everything (V2X)). These messages can relay information ranging from the relative location and direction of motion of other vehicles (and the potential for all road users) to warning messages that traffic lights are about to change, or inclement weather conditions are soon to be encountered. Further, digital alert technologies could allow emergency and first response vehicles to communicate their location in an effort to prevent collisions with personnel and vehicles on the roadside. The NHTSA estimated that two potential applications of V2V alone could yield a 50 percent reduction in crashes, injuries and fatalities, on average. NHTSA notes, “this could potentially prevent 400,000 to 600,000 crashes, 190,000 to 270,000 injuries, and save 780 to 1,080 lives each year.”<sup>23</sup> This Subcommittee should direct NHTSA to update and complete the 2017 Notice of Proposed Rulemaking (NPRM) to require vehicle-to-vehicle (V2V) technology. Congress should also direct NHTSA to partner with the Federal Highway Administration (FHWA) to study the needs and benefits of vehicle-to-infrastructure (V2I) with the goal of mandating vehicle-to-everything (V2X) communications for safety.

On the path to AVs, requiring minimum performance standards for these foundational technologies will ensure the safety of all road users while also building consumer confidence in the capabilities of these newer crash avoidance technologies.

### **Autonomous Vehicles: The Need to Avoid “What’s Past is Prologue”**

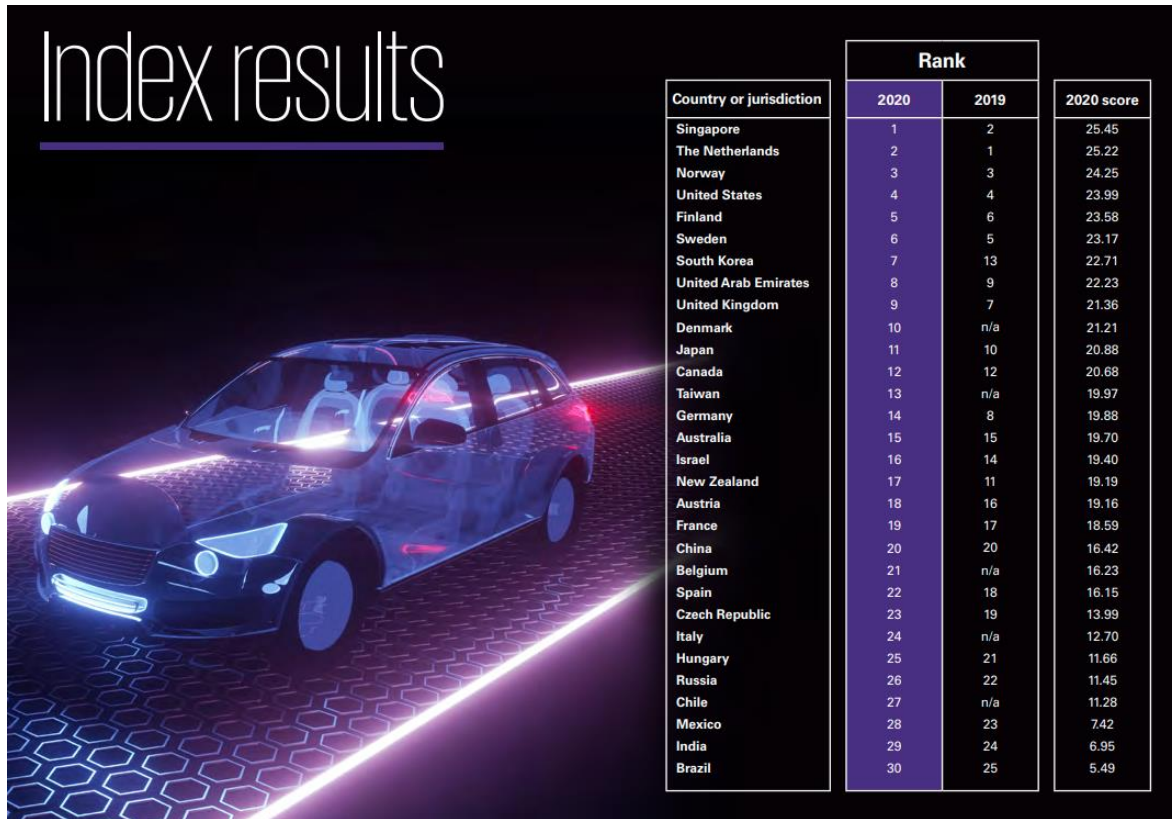
Data obtained through the Standing General Order (SGO) from July 2021 to December 2022 have revealed 227 crashes involving Automated Driving Systems (ADS) and 731 with ADAS (including 18 resulting in a fatality).<sup>24</sup> These disturbing statistics demonstrate that it is imperative that NHTSA continue to collect and refine this data and provide it to Congress and the public, and that sensible federal safety standards be developed to prevent crashes and save lives.

### ***Development and Deployment in the U.S. Compared to Other Countries***

Other countries are taking a more calculated, careful and cautious approach to AVs.<sup>25</sup> Despite often-repeated claims about “falling behind” other countries in the “race” for AVs, the U.S. remains a leader in the field. For example:

- China continues to require permits or restricts operations of AVs on its roads to only those areas approved by the authorities.<sup>26</sup>

- Germany continues to require permits, approvals, and limits areas of operation for AVs.<sup>27</sup>
- In Japan, the introduction of Level 4 vehicles will be controlled and limited to specific, lightly populated areas.<sup>28</sup>
- Even the latest United Nations Economic Commission for Europe (UNECE) regulations will limit operations to restrict risks and oversee approval through testing and other requirements.<sup>29</sup>



*KPMG 2020 Autonomous Vehicles Readiness Index*

In sum, no country is selling fully automated vehicles for unfettered use to the public and by many accounts, none will be for a significant amount of time.<sup>30</sup> According to the most recent KPMG analysis, the U.S. ranks fourth in the world for AV readiness, while China is at number twenty. While the U.S. is not behind other countries in allowing AVs to go to market, we are behind in establishing comprehensive safeguards to ensure that this progress happens without jeopardizing or diminishing public safety.

Advocates and numerous stakeholders developed the “AV Tenets,” policy positions which should be a foundational part of any AV policy.<sup>31</sup> It has four main, commonsense categories including: 1) prioritizing safety of all road users; 2) guaranteeing accessibility and equity; 3) preserving consumer and worker rights; and, 4) ensuring local control and sustainable transportation. Many promises have been made about AVs bringing reductions in motor vehicle crashes and resultant deaths and injuries, lowering traffic congestion and vehicle emissions, expanding mobility and accessibility, improving efficiency, and creating more equitable transportation options and opportunities. The commonsense safeguards in the AV Tenets will help accomplish these goals. The AV Tenets are supported by a coalition of more than 60 groups and are based on expert analysis, real-world experience and public opinion. Requiring that AVs meet minimum standards, including for cyber security, and that operations are subject to adequate oversight, including a comprehensive database accessible by vehicle identification

number (VIN) with basic safety information, will save lives and boost consumer confidence in this burgeoning technology.

Moreover, no demonstrable evidence has been presented to show that the development of AVs requires larger volumes of exemptions from federal safety standards which are essential to public safety. Current law already permits manufacturers to test an unlimited number of vehicles on public roads and to apply for an unlimited number of exemptions. For each exemption granted, manufacturers can sell up to 2,500 exempt vehicles. In fact, since the first AV bill was introduced in 2017, AV development has not come to a grinding halt. For example, in March 2022 Waymo announced it was offering autonomous rides in its taxi in San Francisco expanding its previous testing zone that was limited to Arizona.<sup>32</sup> In addition, it has recently been reported that Microsoft is investing millions of dollars in an autonomous trucking company.<sup>33</sup> Allowing huge numbers vehicles on the road (potentially millions) exempt from current safety standards and in the absence of new standards for the ADS and related issues, de facto turn everyone -- in and around these vehicles -- into unknowing and unwilling human subjects in a risky experiment. A massive influx of new vehicles exempt from FMVSS will have serious, costly and potentially deadly ramifications, both those that can be predicted or some that cause unintended consequences.

Lastly, we commend Congress for the safety advances included in the bipartisan IIJA and have been urging the U.S. DOT to implement the directives with urgency to address the motor vehicle crash fatality and injury toll. With 115 people being killed on our roadways every day, time is certainly of the essence.

Thank you for your consideration of these critically important safety issues. As always, we are ready and willing to be of assistance to you in furtherance of improving safety for all road users.

Sincerely,



Catherine Chase, President

cc: Members of the Subcommittee on Innovation, Data, and Commerce

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<sup>1</sup> Traffic Safety Facts 2020, A Compilation of Motor Vehicle Crash Data, DOT HS 813 375, NHTSA (Oct. 2022).

<sup>2</sup> Early Estimates of Motor Vehicle Traffic Fatalities And Fatality Rate by Sub-Categories in 2021, NHTSA, May 2022, DOT HS 813 298; and Early Estimates of motor Vehicle Traffic Fatalities and Fatality Rate by Sub-Categories Through June 2022, NHTSA, Dec. 2022, DOT HS 813 405

<sup>3</sup> Departmental Guidance on Valuation of a Statistical Life in Economic Analysis, NHTSA, available at <https://www.transportation.gov/office-policy/transportation-policy/revised-departmental-guidance-on-valuation-of-a-statistical-life-in-economic-analysis>, last accessed Jan. 31, 2023.

<sup>4</sup> The Economic and Societal Impact of Motor Vehicle Crashes, 2019, NHTSA, Dec. 2022, DOT HS 813 403.

<sup>5</sup> Cost of Motor Vehicle Crashes to Employers 2019, Network of Employers for Traffic Safety, March 2021.

<sup>6</sup> Lives Saved by Vehicle Safety Technologies and Associated Federal Motor Vehicle Safety Standards, 1960 to 2012, DOT HS 812 069 (NHTSA, 2015); See also, NHTSA AV Policy, Executive Summary, p. 5 endnote 1.

<sup>7</sup> Pub. L. 102-240 (Dec. 18, 1991). Statistics are from the U.S. Department of Transportation unless otherwise noted.

<sup>8</sup> Traffic Safety Facts 2020, A Compilation of Motor Vehicle Crash Data, DOT HS 813 375, NHTSA (Oct. 2022).

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- <sup>9</sup> Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act, Pub. L. 106-414 (Nov. 1, 2000).
- <sup>10</sup> Anton’s Law, Pub. L. 107-318 (Dec. 4, 2002).
- <sup>11</sup> Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Pub. L. 109-59 (Aug. 10, 2005).
- <sup>12</sup> SAFETEA-LU, Pub. L. 109-59 (Aug. 10, 2005)
- <sup>13</sup> SAFETEA-LU, Pub. L. 109-59 (Aug. 10, 2005)
- <sup>14</sup> Moving Ahead for Progress in the 21st Century (MAP-21) Act, Pub. L. 112-141 (Jan. 3, 2012).
- <sup>15</sup> (MAP-21) Act, Pub. L. 112-141 (Jan. 3, 2012).
- <sup>16</sup> Cameron Gulbransen Kids Transportation Safety Act of 2007, Pub. L. 110-189 (Feb. 28, 2008).
- <sup>17</sup> NTSB Most Wanted List Archives, [https://ntsb.gov/safety/mwl/Pages/mwl\\_archive.aspx](https://ntsb.gov/safety/mwl/Pages/mwl_archive.aspx)
- <sup>18</sup> IIHS, Petition for Rulemaking (Mar. 22, 2022); available at: [https://www.iihs.org/media/4619ab07-fc36-4a62-8a92-da401206e03b/4ZqPbA/Petitions/petition\\_2022-03-22.pdf](https://www.iihs.org/media/4619ab07-fc36-4a62-8a92-da401206e03b/4ZqPbA/Petitions/petition_2022-03-22.pdf)
- <sup>19</sup> IIHS, Petition for Rulemaking (Mar. 22, 2022)
- <sup>20</sup> IIHS, Petition for Rulemaking (Mar. 22, 2022)
- <sup>21</sup> Traffic Safety Facts 2020, A Compilation of Motor Vehicle Crash Data, DOT HS 813 375, NHTSA (Oct. 2022); and Early Estimates of Motor Vehicle Traffic Fatalities And Fatality Rate by Sub-Categories in 2021, NHTSA, May 2022, DOT HS 813 298
- <sup>22</sup> National Traffic and Motor Vehicle Safety Act of 1966, Pub. L. 89-563 (Sep. 1966).
- <sup>23</sup> NHTSA, *Fact Sheet: Improving Safety and Mobility Through Vehicle-to-Vehicle Communication Technology*, available here: [https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/v2v\\_fact\\_sheet\\_101414\\_v2a.pdf](https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/v2v_fact_sheet_101414_v2a.pdf).
- <sup>24</sup> Standing General Order on Crash Reporting: For incidents involving ADS and Level 2 ADAS; NHTSA, available at <https://www.nhtsa.gov/laws-regulations/standing-general-order-crash-reporting>, last accessed Jan. 31, 2023
- <sup>25</sup> Autonomous vehicles: cross jurisdictional regulatory perspectives update, Oct. 7, 2022,
- <sup>26</sup> China drafts rules on use of self-driving vehicles for public transport; Aug. 8, 2022, Reuters; and Baidue bags China’s first fully driverless robotaxi licenses, Aug. 7, Reuters. Real driverless cars are now legal in Shenzhen, China’s tech hub, Jul. 25, 2022, TechCrunch+.
- <sup>27</sup> Germany completes legal framework for autonomous driving | Federal Cabinet approves new ordinance, Apr. 2022, Malterer, M.
- <sup>28</sup> Japan to open roads to autonomous vehicles in 2023, Nov. 28, 2022, Wessling, B., The RobotReport.
- <sup>29</sup> New rules to improve road safety and enable fully driverless vehicles in the EU, Jul. 6, 2022, UNECE.
- <sup>30</sup> Lawrence Ulrich, Driverless Still a Long Way From Humanless, N.Y. Times (Jun. 20, 2019); Level 5 possible but “way in the future”, says VW-Ford AV boss, Motoring (Jun. 29, 2019).
- <sup>31</sup> The AV Tenets are attached as Appendix B.
- <sup>32</sup> Alan Ohnsman, Waymo Starts Fully Autonomous Rides In San Francisco, Expanding Arizona Robotaxi Zone, Forbes (Mar. 30, 2022).
- <sup>33</sup> Krystal Hu and Joseph White, Microsoft to invest in autonomous trucking startup Gatik -sources, Reuters (Jan. 4, 2023).